

GH66497-01

Directed Readings

Friday, January 24, April 4, 11, 18 and 25

2:00-3:00 PM

Galvin 115B

Spring 2014

Instructor

Joseph G. Bock

Eck Institute for Global Health

University of Notre Dame

jbock@nd.edu

109A Galvin Life Sciences Building

Notre Dame, IN 46556 USA

+1-574-631-5799

+1-574-631-5617 (Rachel Kozak, Program Coordinator)

Special thanks to Tom Marentette and Matt Berg who assisted in identifying resources.

This directed readings course familiarizes students with Information, Communications, and Technology (ICT) applications for global health. Students are expected to read all assigned readings and participate actively in TechChange's mHealth course from March 31-April 25, see <http://techchange.org/online-courses/mhealth-mobile-phones-for-public-health/>. The facilitator of this mHealth course will be consulted to determine the extent to which students are prepared for, and participate in, each class session.

When we speak of ICT platforms, we are referring to internet sites that pull together data in useful ways. Sometimes this involves visualization, as in placing data on a digital map (as with Ushahidi and Crowdmap). Others process and organize data (such as with medical records systems, such as OpenMRS). Others deal with discovery, as in new drugs for neglected and rare diseases (such as Fit2Cure, which is being developed by some PhD students here at Notre Dame). There are many other platforms that relate to global health (for instance, one is Magpi, which allows users to send texts and audio – such as for educational campaigns to promote hygiene).

Note that the fees for participation in TechChange's course will be covered by our MS in Global Health program.

Learning goals

This course is designed to accomplish increased understanding and skill development in these primary areas:

1. A knowledge of some of the major concepts related to mobile and ICT applications for global health
2. A capability to identify applicable mobile and ICT applications for multiple kinds of global health challenges

3. Working familiarity with least one ICT platform, to the point of being able to explain how it functions and how it can be used

Office Hours

I welcome the opportunity to meet with students individually on Wednesdays or Fridays. If you prefer, set an appointment by sending an e-mail to Rachel Kozak at r.kozak@nd.edu or you can call her at 574-631-5617.

Academic Integrity

Students are expected to uphold the Academic Code of Honor described in the Graduate School's Bulletin of Information (online at <http://graduateschool.nd.edu/assets/29023/bulletin.1011.pdf>), p. 18.

Attendance

Students are expected to attend all class sessions. If you cannot make a class, please obtain advanced approval from the instructor. The class participation grade will be lowered by one partial unit (i.e. from a B+ to a B) for each unexcused absence. More than three unexcused absences will lead to a failure of the course.

Assignments/Examinations/Percentages of Grade

1. Active participation in TechChange's mHealth course (75%)
2. Attendance and participation at three class sessions (10%)
3. Memorandum on your selected ICT for global health platform, due April 30 or sooner (15%)

Memorandum

You are the Country Representative of Catholic Relief Services in a developing country. You and your fellow staff members are concerned about a global health problem. You believe it would be useful to use an ICT platform for addressing this problem. You feel strongly that you need to hire an ICT specialist to launch and manage this undertaking.

The Regional Director, your immediate supervisor, who is based in Geneva, requires Country Representatives to send a memorandum justifying the need to hire new personnel. In this memorandum, you need to provide:

- I. The health problem you have identified
- II. A brief explanation of the program you would like to initiate to address this problem
- III. A description of the platform you would like to use in this program, including how it functions and how it can be helpful in addressing the problem
- IV. Reasons why you need to hire an ICT specialist to launch and implement the program effectively
- V. Involvement of other staff members and use of assets (such as vehicles to get to villages) that will be required in implementing this project

You should use a standard memorandum format, namely:

TO: Regional Director
FROM: [your name], Country Representative of [your country of assignment]
DATE: April 30, 2014
SUBJ.: Reason for Hiring an ICT Specialist

We have identified a health challenge that can be addressed using ...

Readings

Here are some readings and videos you can use to learn more about the field of ICT applications to global health. This field is changing rapidly. Some of the hyperlinks could be different or expired, so please use a search engine to find the right link if need be.

General Background

- [SMS Uprising – Mobile Activism in Africa](#)
- [Information and Communications for Development - Maximizing Mobile 2012](#)
- Clay Shirkey, *Here Comes Everybody: The Power of Organizing without Organizations*. New York: Penguin, 2008.
- World Health Organization, "Innovative Technologies that Address Global Health Concerns." Last modified 2010.
- Clay Shirky, "How cognitive surplus will change the world," TEDtalk found at <http://www.youtube.com/watch?v=qu7ZpWeclS8>

Crisis Mapping

- Meier, Patrick. "Crisis mapping in Action: How Open Source Software and Global Volunteer Networks Are Changing the World, One Map at a Time." *Journal of Map & Geography Libraries*. (2012): 89-100. [Article Access](#)
- Hattotuwa, Sanjana, and Stauffacher, Daniel. ICT4 Peace Foundation, "Haiti and beyond: Getting it Right in Crisis Information Management." Last modified January 2011. Accessed July 23, 2012. [Article Access](#)
- Patrick Meier, [Introduction to Crisis Mapping](#)

Humanitarian Relief

- OCHA Policy and Studies Series, *Humanitarianism in the Network Age (Including World Humanitarian Data and Trends 2012)*. United Nations, 2013.
- Disaster Relief 2.0: The Future of Information Sharing in Humanitarian Emergencies [Article Access](#)
- Meier, Patrick, and Jennifer Leaning. "Applying Technology to Crisis Mapping and Early Warning in Humanitarian Settings." *Harvard Humanitarian Initiative: Working Paper Series*, September 2009. [Article Access](#)

Geographical Information Systems

- Tanzer, Frank. "Geographical Information Systems (GIS) Innovations for Primary Health Care in Developing Countries." *Innovations*. 1. no. 2 (2006): 106-122. [Article Access](#)

- Cromley, Ellen, and Sara McLafferty. *GIS and Public Health*. New York: The Guilford Press, 2012, chap. 1. [Article Access](#)
- Videos:
 - <http://www.youtube.com/watch?v=GjPc39OXr6I>
 - <http://www.youtube.com/watch?v=huQpn0D0eK4>

Electronic Medical Records

- Drury, Peter, and Bruce Dahlman. "Open Source approaches to health information systems in Kenya." *World Hospitals and Health Services* . 41. no. 3 (2012): 36-39. [Article Access](#)
- Mamlin, Burke, Paul Biondich, and Ben Wolfe. "Cooking Up An Open Source EMR For Developing Countries: OpenMRS- A Recipe For Successful." *AMIA Symposium Proceedings* . : 529-533. [Article Access](#)
- Fraser, Hamish, Paul Biondich, Deshen Moodley, Sharon Choi, Burke Mamlin, and Peter Szolovits. "Implementing electronic medical record systems in developing countries." *Informatics in Primary Care*. 1. no. 13 (2005): 83-95. [Article Access](#)
- Williams, Faustine, and Suzanne Boren. "The role of the electronic medical record (EMR) in care delivery development in developing countries: a systematic review." *Informatics in Primary Care*. 1. no. 16 (2008): 139-145. [Article Access](#)
- Bernard, Fong, A.C.M. Fong, and C.K. Li. *Patient Records and Data Mining Applications*. Wiley, 2010, chap. 4.3. [Article Access](#)

Episurveyor and Magpi

Watch:

- <http://www.youtube.com/watch?v=5aS6R1fUCBU>
- <http://www.youtube.com/watch?v=UazpKPCdO54>
- <http://www.youtube.com/watch?v=hX71CFY2Cb8>

Early Warning, Early Response, and Violence Prevention

- Caldwell, Zarrin. Peace & Collaborative Development Network, "How PeaceTxt went from Chicago Interrupter to Kenyan Peacebuilder." Last modified March 6, 2012. Accessed July 6, 2012. [Article Access](#)
- Brownstein, John, Clark Freifeld, Ben Reis, and Kenneth Mandl. "Surveillance Sans Frontières: Internet-Based Emerging Infectious Disease Intelligence and the HealthMap Project." *PLOS Medicine*. 5. no. 7 (2008). [Article Access](#)
- Watch:
- PeaceTXT, Using Mobile Technology to Prevent Violence: http://poptech.org/peacetxt_videos
- More on PeaceTXT: <http://poptech.org/peacetxt>
- Meier, Patrick. " From Crowdsourcing Crisis Information to Crowdfunding Conflict Zones (Updated)." *iRevolution (blog)*, July 10, 2012. (accessed July 23, 2012).
- Heinzelman, Jessica, Rachel Brown, and Patrick Meier. *Mobile Technology, Crowdsourcing, and Peace Mapping: New Theory and Applications for Conflict Management*. Springer Science, 2011, chap. 4. [Article Access](#)

- Bock, Joseph G., with a forward by John Paul Lederach, *The Technology of Nonviolence: Social Media and Violence Prevention*. Cambridge: MIT Press, 2012, Preface and Introduction, and Part I (chapters 1 and 2)

Digital Activism and Social Mobilization

- Pierskalla, Jan H., Florian M. Hollenbach, "Technology and Collective Action: The Effect of Cell phone Coverage on Political Violence in Africa." *American Political Science Review*, May, 2013: 1-18.
- Land, Molly. "Networked Activism." *Harvard Human Rights Journal*, Vol. 22, 2009; NYLS Legal Studies Research Paper No. 09/10 #13. Available at SSRN: <http://ssrn.com/abstract=1475423>

Crowdsourcing for Drug Discovery to Address Rare and Neglected Diseases

- Read over the website of Sayansia: Scientific discovery through gaming, found at www.sayansia.com

Journals, blogs and other electronic resources that might be helpful:

- [Information Technologies and International Development \(ITID\)](#)
- [Journal of Health Informatics in Developing Countries](#)
- [ICTlogy](#)
- [ICTs for Development](#)
- [Kiwanja.net](#)
- [Researching ICT4D](#)
- [Ushahidi Blog](#)
- ICT Works, <http://www.ictworks.org/>
- <http://mobileactive.org/>
- <http://www.mobilemediatoolkit.org/>
- <http://ict4djester.org/blog/>
- http://ictlogy.net/wiki/index.php?title=Category:Journals_ICT4D (a great list of publications and resources here)
- HumanityRoad.org – developing a micro-tasking system for Ushahidi
- Armed Conflict Location and Event Data set (ACLED)
- Mapping the Maps project at George Washington University – Ushahidi has used this to identify best practice
- Harvard Humanitarian Initiative
- KoBo Toolbox, <http://www.kobotoolbox.org/products/kobomap>
- Geodata.tufts.edu
- Humanitarian Information Unit – US Department of State, <http://www.state.gov/s/inr/hiu/>
- Change at the University of Washington, <http://change.washington.edu/>
- Program on Liberation Technology at Stanford, <http://liberationtechnology.stanford.edu/>
- SPIDER – Swedish Program for ICT in Developing Regions, www.spidercenter.org
- [The Centre for Development Informatics \(CDI\) at the University of Manchester](#), <http://www.cdi.manchester.ac.uk/>
- mHealth Alliance, <http://healthunbound.org/>